

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Lighting engineering		Code 1010321271010321119
Field of study Electrical Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 4 / 7
Elective path/specialty Light Engineering	Subject offered in: polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: - Laboratory: 1 Project/seminars: 1		No. of credits 6
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 6 100%
Responsible for subject / lecturer: Dr inż. Małgorzata Górczewska email: -Luxel@hotmail.pl tel. 61 665 2398 Elektryczny ul. Piotrowo 3A, 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of the basics of lighting technology: the calculation and measurement of basic lighting, and general lighting requirements and rules for the selection of equipment in the process of lighting design.
2	Skills	The ability to use knowledge in lighting technology to carry out computations, measurement and evaluation of lighting parameters. Ability to use of standards and guidelines in the field of technology świetlnej. Umiejętność exploration and reaching out to information on new lighting solutions.
3	Social competencies	Is aware of the need to broaden their competence, willingness to work together as a team
Assumptions and objectives of the course: -Understanding the requirements of advanced lighting and lighting design. -Knowledge of the practical principles of design interior lighting and outdoor lighting.		
Study outcomes and reference to the educational results for a field of study		
Knowledge: 1. Able to characterize the rules on lighting techniques in the selection of lighting systems, evaluating technical feasibility and operation. - [K_W015 +++, K_W09 ++] 2. Can point lighting for the specific purpose - [K_W23 ++]		
Skills: 1. Able to select and design a lighting system for indoor and outdoor lighting, taking into account the requirements of these standards. - [K_U12 ++ K_U21 ++]		
Social competencies: 1. Understands the need to know the capabilities and continuous training - [K_K03 +++] 2. Is aware of the importance of activity in electrical engineering - [K_K03 +++]		
Assessment methods of study outcomes		

Lecture - Assessment of knowledge and skills listed on the written test,		
Laboratory - assessment of knowledge and skills related to the implementation of the tasks your practice, the assessment report performed exercise.		
The project - to evaluate the knowledge and skills associated with the implementation of the project.		
Get extra points for the activity in the classroom, developed aesthetic diligence reports and tasks within their own learning.		
Course description		
Analysis of technical, economic, and psycho-physiological determinants of the choice of lighting systems, the selection of sources and luminaires. Assessment of changes in lighting performance over time and to develop procedures for the operation and maintenance of the lighting. Emergency lighting. Interior lighting design methods and outdoor lighting. Light in architecture.		
Basic bibliography:		
1. Bąk J., Pabiańczyk W.: Podstawy techniki świetlnej. Wyd. Pol. Łódzkiej, Łódź 1994.		
2. Laboratorium z techniki świetlnej. Praca zbiorowa. Wyd. Pol. Pozn. nr 1792, Poznań 1989.		
3. Żagan W.: Podstawy techniki świetlnej. Ofic. Wyd. Pol. Warszawskiej, Warszawa 2005.		
4. Wiśniewski A.: Elektryczne źródła światła. Oficyna Wydawnicza Politechniki Warszawskiej. Wydanie I (2010).		
5. Philips, Lighting Manual. Wyd.V 1993.		
6. Helbig E: Podstawy fotometrii. WNT, Warszawa 1975.		
7. Normy przedmiotowe.		
Additional bibliography:		
1. Lighting Handbook, Reference & Application. IES of North America, New York 2010.		
Result of average student's workload		
Activity	Time (working hours)	
1. participation in class lectures	15	
2. participation in project activities	15	
3. participation in laboratory classes	15	
4. part in the consultation and agreement of projects	30	
5. participation in the credits,	6	
6. preparation for and execution of laboratory reports	16	
7. collection of materials and construction of the project	45	
8. Preparing for credits	10	
Student's workload		
Source of workload	hours	ECTS
Total workload	152	6
Contact hours	81	3
Practical activities	92	3